

1 Supplementary Table S1. Summary of collection details and the Sediment Accumulation Rate (SAR) for all sediment cores collected within
2 the SoG for this study. Data not available = na.

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Collection date	Location	Station	Longitude (°W)	Latitude (°N)	Water depth (m)	SAR (g cm⁻² yr⁻¹)
2003-06-19	N	GVRD 1	124.6	49.6	169	0.08
2003-06-18	S	GVRD 2	123.3	49.3	76	0.26
2002-12-19	S	GVRD 3	123.3	49.2	83	1.30
2002-12-20	S	GVRD 4	123.3	49.1	84	na
2002-12-20	S	GVRD 5	123.5	49.2	388	0.64
2003-06-18	S	GVRD 6	123.3	48.9	187	2.70
2003-12-06	S	GVRD 7	123.4	49.1	233	0.32
2007-07-08	N	GVRD 8	123.9	49.4	214	0.10
2007-07-12	N	GVRD 9	124.1	49.5	365	0.17
2007-07-09	N	GVRD 10	124.9	49.8	310	0.05
2007-07-11	N	GVRD 11	124.6	49.7	336	0.12
2007-07-11	N	GVRD 12	124.4	49.4	328	0.12
2007-07-12	N	GVRD 13	124.2	49.4	326	0.12
2007-07-13	S	GVRD 14	123.6	49.4	160	0.23
2007-07-14	S	GVRD 15	123.5	49.1	296	1.73
2007-11-06	S	GVRD 16	123.3	49.0	210	0.98
2007-11-06	N	GVRD 17	124.0	49.4	410	0.21
2007-11-29	S	GVRD 18	123.1	48.9	157	0.30
2007-11-29	S	GVRD 20	123.8	49.3	365	0.10
2007-12-01	N	GVRD 21	125.1	50.0	260	0.11
2007-12-01	N	GVRD 22	124.2	49.6	373	0.23

4 Supplementary Table S2. Nitrogen isotope composition of sediment cores both at the
5 sediment-water (surface) and at the location determined to be where PN is buried.

Station	Location	$\delta^{15}\text{N}$ (‰, surface)	$\delta^{15}\text{N}$ (‰, buried)
GVRD 1	N	6.4	6.8
GVRD 2	S	4.7	4.6
GVRD 3	S	2.1	3.7
GVRD 4	S	3.7	3.4
GVRD 5	S	6.0	5.0
GVRD 6	S	5.7	5.6
GVRD 7	S	5.6	5.3
GVRD 8	N	6.2	6.5
GVRD 9	N	7.0	6.7
GVRD 10	N	7.1	7.1
GVRD 11	N	7.1	7.3
GVRD 12	N	7.2	7.5
GVRD 13	N	7.0	7.6
GVRD 14	S	6.5	6.1
GVRD 15	S	5.8	5.8
GVRD 16	S	5.7	5.7
GVRD 17	N	6.9	6.6
GVRD 18	S	6.5	5.9
GVRD 20	S	6.1	6.4
GVRD 21	N	7.0	7.3
GVRD 22	N	6.7	6.1

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